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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
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08/748,935 11/13/96 IMAI

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020277  
MCDERMOTT WILL & EMERY  
600 13TH STREET, N.W.  
WASHINGTON, DC 20005-3096

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EXAMINER

NGUYEN, T

ART UNIT

PAPER NUMBER

3661 21

DATE MAILED:

01/12/01

**Please find below and/or attached an Office communication concerning this application or proceeding.**

**Commissioner of Patents and Trademarks**

# Office Action Summary

Application No.

08/748,935

Applicant(s)

Imai et al

Examiner

Thu Nguyen

Group Art Unit

3661



☒ Responsive to communication(s) filed on Oct 26, 2000

☒ This action is **FINAL**.

☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

A shortened statutory period for response to this action is set to expire three month(s), or thirty days, whichever is longer, from the mailing date of this communication. Failure to respond within the period for response will cause the application to become abandoned. (35 U.S.C. § 133). Extensions of time may be obtained under the provisions of 37 CFR 1.136(a).

## Disposition of Claims

☒ Claim(s) 2, 3, 5, 9-22, 29-31, and 34-37 is/are pending in the application.

Of the above, claim(s) \_\_\_\_\_ is/are withdrawn from consideration.

☒ Claim(s) 9-22 and 37 is/are allowed.

☒ Claim(s) 2, 3, 5, 29-31, and 34-36 is/are rejected.

☐ Claim(s) \_\_\_\_\_ is/are objected to.

☐ Claims \_\_\_\_\_ are subject to restriction or election requirement.

## Application Papers

☐ See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.

☐ The drawing(s) filed on \_\_\_\_\_ is/are objected to by the Examiner.

☐ The proposed drawing correction, filed on \_\_\_\_\_ is ☐ approved ☐ disapproved.

☐ The specification is objected to by the Examiner.

☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. § 119

☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).

☐ All ☐ Some\* ☐ None of the CERTIFIED copies of the priority documents have been  
☐ received.

☐ received in Application No. (Series Code/Serial Number) \_\_\_\_\_.

☐ received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\*Certified copies not received: \_\_\_\_\_

☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

## Attachment(s)

☐ Notice of References Cited, PTO-892

☐ Information Disclosure Statement(s), PTO-1449, Paper No(s). \_\_\_\_\_

☐ Interview Summary, PTO-413

☐ Notice of Draftsperson's Patent Drawing Review, PTO-948

☐ Notice of Informal Patent Application, PTO-152

--- SEE OFFICE ACTION ON THE FOLLOWING PAGES ---

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## **DETAILED ACTION**

### ***Claim Rejections - 35 USC § 112***

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 29-31, 2-3, 5, 34-36 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 29, lines 8-9, the claimed limitation "whereby the plurality of projected lines ... form model" defines the plurality of projected lines, however, in lines 11-13, the claimed limitation "whereby the plurality of projected lines ... first set of contour" seem to redefine the projected lines which composes a second set of contours. It is not clear why the projected lines is redefined and what causes the projected lines to comprise another set of contour that are different from the first set of contour.

Claims 2-3, 5, 30-31, 34-36 are rejected as being dependent on the rejected base claim.

### ***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

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(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 29-31, 2, 5, 34-36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sato et al (U.S Patent No. 5,754,680) (Sato '680).

As per claim 29 Sato '680 teaches a method of generating three-dimensional form data. The method comprises the steps of: obtaining a three dimensional form data representing a three dimensional form model (col.2, lines 21-23); projecting a plurality of lines to the surface of the object to form the first set of contours (fig.5A-E; boxes S3 and S4, fig.4; col.8, lines 44-48);

Sato '680 does not explicitly disclose modifying the plurality of projected lines. However, in col.8, lines 53-61 Sato '680 discloses modifying the patches on a model, wherein the patches is defined by latitudinal and longitudinal lines, it would have been obvious to a person of ordinary skilled in the art at the time the invention was made to modify the lines by modifying the patches of Sato '680. The motivation for this would have been to obtain a smaller set of data as motivated by Sato '680 in col.8,lines 58-61.

As per claim 2, 5, Sato '680 teaches expressing projected lines as parametric curve group (col.5, lines 48-58).

As per claim 30, 36, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to move or add a line to be projected by shining onto the model a

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different angle  $\theta$  or by providing at least one further slit image onto the three dimensional object of Sato '680 to obtain a modified set of lines of Sato '680 in col. 3, lines 29-38.

As per claim 31, refer to discussion in claim 1 above. Further, in lines 8, lines 58-61, Sato '680 discloses obtaining a third set of data which is less than a first set of data. It would have been obvious to a person of ordinary skill in the art at the time the invention was made to obtain the third set of data of Sato '680 by eliminating a projected lines which can be done by combining adjacent patches into one larger patch.

As per claim 34, Sato '680 discloses generating data for representing a second set of contour with summary data smaller than the quantity of the obtained three dimensional form data (col.8, lines 53-61).

As per claim 35, providing three dimensional form data from a generator would have been well known to an ordinary person at the time the invention was made.

5. Claims 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Sato '680 in view of Letcher, Jr. (U.S Patent No. 5,627,949).

As per claim 3, Letcher teaches defining control points and moving control points along the surface of a model (col.16, lines 29-40). It would have been obvious to a person of ordinary

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skill in the art at the time the invention was made to use the control point taught by Letcher to move the lines along the surface of the object of Sato '680. The motivation for this would have been to provide the user a convenient graphical user interface so that the user can adjust the lines of Sato '680 to obtain a desired amount of data.

***Allowable Subject Matter***

6. Claims 9-22 and 37 are allowed.

***Response to Arguments***

Claim 29 was rejected under 35 USC 103 rejection over Sato '680 in view of Sato '293. Applicant's argument in view of Sato '293 in page 10, last paragraph and page 11, line 1-2 is moot in view of the new ground of rejection.

***Notice***

The examiner in charge of this application has been transferred to the new art unit 3661. Please indicate the appropriate art unit in future correspondence.

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

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A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

**Any response to this final action should be mailed to:**

Box AF

Commissioner of Patents and Trademarks

Washington, D.C. 20231

or faxed to:

(703) 305-7687, (for formal communications; please mark "EXPEDITED

PROCEDURE")

Or:

(703) 305-7687 (for informal or draft communications, please label

"PROPOSED" or "DRAFT")

Hand-delivered responses should be brought to Crystal Park V, 2451 Crystal Drive, Arlington, VA., Seventh Floor (Receptionist).

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thu Nguyen whose telephone number is (703) 306-9130. The examiner can normally be reached on Monday-Thursday from 8:00 am to 5:00 pm ET.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, William Cuchlinski, can be reached on (703) 308-3873. The fax phone number for this Group is (703)305-7687.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703)308-1113.

NTV

January 10, 2001

  
WILLIAM A. CUCHLINSKI, JR.  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 3600